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ABSTRACT

This guide was developed for North Carolina teachers in early childhood education and focuses on how play-based center activities in kindergarten teach literacy, mathematics, science, social studies, and the arts. Development of the guide was based on educators' experiences and their understanding of how children learn. The guide's introduction asserts that kindergarten programs organized around learning centers and interactive play activities teach basic academic skills in such a way that young children can understand them, urges educators to resist temptations to teach kindergarten in the same way as the upper grades, and discusses ways to incorporate assessment of children's progress toward educational goals in the ongoing classroom activities. The bulk of the guide is devoted to describing the following learning centers, their basic equipment and organization, what children learn at the center, vignettes of children's learning, observations and ideas, and connections of the learning center to the state's curriculum goals: (1) blocks; (2) sand and water; (3) art; (4) dramatic play; (5) manipulatives; (6) science and discovery; (7) books and reading; (8) writing and printing; (9) carpentry; and (10) outdoor activities. An example is provided of a simple and effective classroom design and tips are provided for organizing the classroom. The North Carolina Standard Course of Study for Kindergarten completes the guide. (KB)

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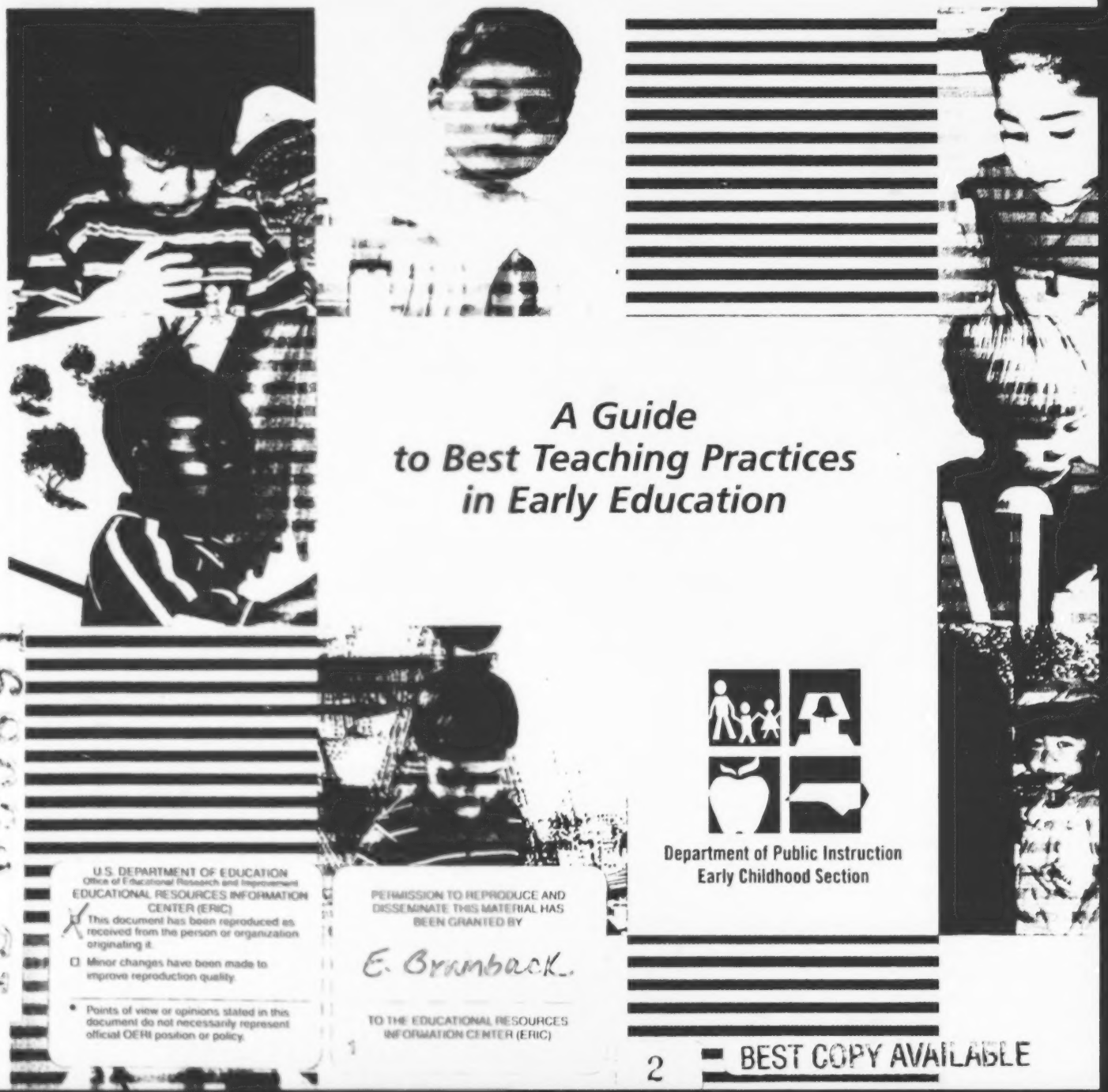
Through the Eyes of a Child



A Guide to Best Teaching Practices in Early Education

Department of Public Instruction
Early Childhood Section

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Learning Through the Eyes of a Child

A Guide to Best Teaching Practices in Early Education

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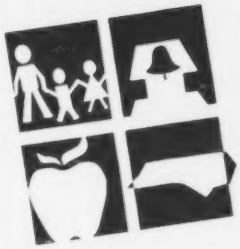

Public Schools of North Carolina

State Board of Education
Phillip J. Kirk, Jr., Chairman

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Department of Public Instruction
Michael E. Ward, State Superintendent

September 2002

Dear Colleagues,

We are very pleased to introduce *Learning Through the Eyes of a Child*, a new guide from the North Carolina Department of Public Instruction for teachers in early childhood education.

The inspiration for this book came from teachers and others in early education who voiced a need for such a resource and then joined in conceptualizing and developing the format and content over the past two years. Based on their experiences and understandings of how young children learn, these specialists envisioned a guide that would describe, clearly and simply, how play-based center activities teach literacy, math, science, social studies and the arts. They saw it as a practical tool to help teachers make the connection between what children were learning and how they could enhance that learning in line with the North Carolina Standard Course of Study.

The result is this colorful, concise, durable and easy-to-use guide, which we believe meets all of those objectives. We think you will agree.

We dedicate this book to our many wonderful early childhood teachers and invite each of you to join us in the learning process that will continue beyond these pages. In connection with the release of Learning Through the Eyes of a Child, a special email list, www.ncpublicschools.org/success/egroup.html, has been established to collect and share even more experiences, ideas and best practices from professionals like you. There are a lot of wonderful things going on in our early childhood classrooms. We look forward to hearing your stories!

Sincerely,

Michael E. Ward

Acknowledgments

This book became a reality through the inspiration and collaboration of Department of Public Instruction staff working with teachers and experts in early childhood education across North Carolina.

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Many of the photographs used in this book to illustrate "learning through the eyes of a child" were taken in Shari Funkhouser-Hinkle's early-learning classroom at Hunter Elementary School in Greensboro. A special thank-you to the children and their teacher for their enthusiastic assistance.

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Hawfields Presbyterian Preschool Class 6,
Mebane, North Carolina

Introduction

As greater focus is placed upon children's academic performance in the preschool years, activity-centered kindergarten programs are being put in the spotlight. The children are obviously having fun in these bustling classrooms. But are they learning what they need to get ready for the next level of school? Shouldn't the kindergarten teacher be teaching them the "Three R's" instead?

The evidence might surprise parents and educators alike – and also reassure them. Kindergarten programs organized around learning centers and interactive play activities do teach the "Three R's," but in a way that young children can understand them at their level of development.

One important thing we know about five-year-olds is that they learn best when allowed to actively explore their environment. They try to make sense of common objects by prying into them, taking them apart and manipulating them in a variety of ways. As they build with blocks, they are considering size, proportion and numbers that will later help make higher-level mathematics seem more sensible. As they draw, cut patterns, glue and paint, they develop the arm and hand muscles needed for handwriting. In their year in kindergarten, children in fact absorb a real depth of learning across the board – in language, mathematics, science, social studies and the arts.

The instruction, exploration and discovery that take place in a play-centered classroom means much more than many may realize. By focusing on developing the whole child – socially, emotionally, physically and intellectually – it provides a nurturing, safe environment that helps children enter their first years of formal schooling with a love of learning, an ability to socialize well with others and a desire to master all subjects.

The deskwork and drill-and-practice curricula common to upper grades, and unfortunately becoming increasingly more common in kindergartens, are still considered highly risky in the teaching of young children. The National Association for the Education of Young Children, in its official position statement on school readiness, soberly notes: "Whether the result of parental pressures or the push to improve student performance on standardized tests ... children entering kindergarten are now typically expected to be ready for what previously constituted the first-grade curriculum. As a result, more children are struggling and failing."

To understand why this might happen, it's important to remember what five-year-olds are like. Developing and changing at a rapid rate, they arrive at kindergarten with widely varying skills and needs. They are just beginning to write and to comprehend what they read. Many are trying things for the first time. Though naturally curious and enthusiastic, their attention span is limited, they tire easily, and they're wary of the unfamiliar. A classroom filled to the four corners with blocks and books, sand and water tables, painting easels and tiny chairs tells them that coming to school is something to look forward to. And that learning is fun.

Widespread concerns about the quality of education have resulted in an increased emphasis on academics and standardized testing in recent years, even encompassing the youngest learners in our public school system. Experts, nevertheless, continue to urge schools, teachers and parents to resist the temptation to teach kindergarten in the same way as the upper grades. They argue that formal instruction in reading or other academic subjects is largely inappropriate for five-year-olds because they are not yet mature enough to grasp what is being taught.

As an authoritative source on good-teaching practices has stated: "Getting kindergarteners ready for elementary school does not mean substituting academics for play time, forcing children to master first-grade 'skills,' or relying on standardized tests to assess children's success."

Developed as the debate over developmentally appropriate programs continues, the primary objective in creating this guidebook is to offer North Carolina's early childhood educators with

Early Learning Class at
Hunter Elementary School
Greensboro, North Carolina

a practical, everyday reference. In a concise format, it brings together basic information about organizing a classroom, ideas for enhancing learning opportunities, and techniques for connecting children's progress with the expectations of the North Carolina Standard Course of Study. This book is in no way intended to narrowly prescribe how teachers teach or assess children. Nor does it attempt to be comprehensive. Rather, our hope is that it will prove to be a useful and much-used resource – and an inspiration for everyone in the early childhood education family.

Assessing Success

Assessment plays a valuable role in helping to evaluate overall progress toward educational goals. At the same time, among young students, it can be a very difficult thing to do accurately and fairly.

Though standardized tests have become a staple at all levels of education in recent years, their use in kindergarten or even earlier continues to be questioned. Because of the rapid, uneven development associated with young children – as well as the vast differences in backgrounds, experiences and even primary languages they bring to the classroom – formal assessment can open the possibility of inappropriate conclusions being made about an individual's capabilities and potential. At worst, this type of testing is judgmental and might erroneously lower expectations for some children.

By contrast, a classroom built around activity centers provides an ideal setting for making assessment a natural and ongoing part of learning. Advocates of this approach point out that young children are more likely to perform at their best when engaged in interesting and meaningful classroom projects – for example, real reading and writing activities rather than only skills testing.

Through frequent and consistent observation of the work children do and how they go about doing it, the teacher gains a true picture of their progress relative to established expectations. Using this information, the teacher can then focus instruction to meet each boy and girl's individual needs.

In this guidebook are many examples of informal assessment techniques designed to support these best practices: accurately measuring children's achievement toward goals set forth in the Standard Course of Study and helping each of these young North Carolinians to reach their highest potential.

Gathering Data

Creating portfolios of art, writings, photos, tapes, lists of favorite books and such provide a meaningful file of information that tracks a child's development over time. Here are a few effective techniques:

- *Observe children performing typical tasks in comfortable circumstances.*
- *Jot down brief objective notes (on sticky notes, labels or index cards) that can be transferred easily to files or folders.*
- *Keep recording materials readily available in several places around the classroom or in a pocket or fanny pack. Keep a pencil or pen on a chain in your pocket or around your neck.*
- *Let children help by tallying their activities in journals or on audiotape.*

Collect samples of both spontaneous and structured work in the range of curricular objectives. Observe how children use language in talking about themselves and interacting with others. How they demonstrate their understanding of the function and conventional forms of written language. How they use mathematical concepts and skills in daily classroom life. How they use language, writing, reading and mathematics in demonstrating an understanding of science, social studies, the arts and physical education. Also plan for structured work samples, collected during typical classroom activities but at a designated time and place. A card game can indicate a child's understanding of number concepts; a conversation about a story can gauge a child's language and reasoning skills.

In kindergarten, appropriate assessment reflects the ongoing life of the classroom and typical activities of the children, avoids approaches that place children in artificial situations, and relies on demonstrated performance during real, not contrived, activities.

The best teachers are those that show you where to look, but don't tell you what to see.

Alexandra K. Trenfor

As children experience the world around them, they form pictures in their minds of what they see. Playing with blocks gives them an opportunity to re-create these representations of their experiences. It is an important skill necessary for abstract thinking. Playing with blocks, children acquire a concrete understanding of concepts crucial to logical thinking. As they choose, build and clean up, they learn about sizes, shapes, numbers, order, area, length and weight. Because blocks are easy to share with others, they also promote social interaction and meaningful conversations.

Blocks

In the Blocks Center, Children

- ★ Learn about height, width, depth and length
- ★ Develop language and vocabulary in a variety of situations
- ★ Match objects in one-to-one correspondence
- ★ Demonstrate concepts of part/whole and same/different
- ★ Form groups by sorting and matching objects according to attributes
- ★ Learn to cooperate, share, plan and negotiate
- ★ Develop large and small muscle coordination and eye/hand coordination
- ★ Learn mapping skills
- ★ Learn physical representations of addition and subtraction
- ★ Learn size and shape differentiation, relations and recognition
- ★ Express relative sizes
- ★ Understand gravity, stability, weight and balance

Getting Organized

The Blocks center encompasses so many learning concepts, it needs to be given as much room as possible. It should be large enough to allow a number of children to work at once and leave their houses, cities and landscapes on display for continued work at a later time. The area's space should be carpeted to make it comfortable and appealing and to soften the noise of falling blocks. Low shelves for storing unit blocks can help to define the area and slow down or prevent traffic through the area.

Basic Equipment

500 to 750 blocks in a variety of shapes and sizes
Sets of farm and zoo animal figures
Cars, trucks and other vehicles of different sizes

Sets of people figures of various ethnic groups
Dollhouse furniture
Landscaping accessories
Baskets for storing props
Writing and drawing materials
Tape measure and rulers
Hats
Puppets
At least three shelves at children's eye level for blocks and supplies
Camera for taking photos of projects

Observations & Ideas

Creativity can be encouraged in the Blocks center by including accessories such as bridges, chimneys, ramps, different types of blocks, people, animals and vehicles.

Children value their structures whether or not they represent specific things. Saying "Tell me about what you made" encourages a dialog and offers new opportunities to explore.

Thinking Outside the Blocks

A teacher who had trouble finding volunteers to tidy up the Blocks area created a way not only to accomplish that mission but also to teach some new concepts to her class.

I brought a box of blocks and a container of little cars over to the rug and asked for a volunteer to build a road we could drive the cars on. Our volunteer made a very creative highway, with turns and a tunnel. Next I asked for someone to drive a pink car to the end of the road. I continued with different colors until we had practiced with all of the colors. We talked about how our tractor would drive very slowly, but the racecar would drive very fast. After we finished, two children were asked to put the blocks back in the box, and two more were asked to put the cars back in their container. Others were chosen to carry the boxes back to their storage areas and roll up the rug. The children had learned how to take out and put away the blocks and cars, how to drive the different kinds of cars, and how to identify the cars by color.

What a child may do in this center

SCOS	Potential interactions
S.S. 2.01	**Puts blocks away**
Math 3.02	• Provide patterns on shelves and labeled baskets for cleanup.
S.S. 2.02, 2.03	• "Who is responsible for putting blocks away? Which group?"
Sci. Goal 3, Math 2.02	**Fills up containers and dumps them out**
Math 1.09, 2.05 Sci. 4.03	• "How many blocks do you think it will hold?"
Math 2.05, 4.03	• Provide additional containers: balance scale, bulldozer, dump truck, front-end loader, etc.
Math 2.02	**Lines up blocks horizontally**
Math 1.02, 1.03	• "Let's count the blocks."
Math 2.04	• "Describe what you have made."
Math 1.06	• Ask child to select certain blocks (first, third, etc.).
Math 2.02	**Stacks blocks**
Sci. 3.01	• "Describe the materials you used in your construction."
Math 2.04	• "Tell me how you built your structure."
Math 2.05	• "How tall is your building/structure? What can be used to measure it?"
Math 2.03	• "Which is taller – you or your tower?"
Science 3.03	**Builds blocks up, then knocks them down**
Sci. 3.03	• "Why did the structure fall down?"
S.S. 2.01	**Follows rules of safety in blocks**
ELA 3.01, 3.04, 4.02, 4.03, 4.04	• Ask children to develop rules for the blocks center as a shared writing activity.
SS 2.02, 2.03	• "How many children should be in the center at one time? How much space is appropriate for building? What kinds of materials are appropriate?"

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Education is not the filling of a bucket, but the lighting of a fire.

William Butler Yeats

Sand and

Through sand and water exploration, children begin to learn basic scientific and mathematical concepts, such as volume and capacity, empty and full, floating and sinking. Also, by sifting sand and scooping water, they improve physical dexterity. When children work together at the sand and water tables, they are faced with real problems that require sharing, compromising and negotiating. Sand and water play can be two separate activities, but wet sand play allows children to encounter principles of math and science firsthand. In mixing sand and water, they discover that they have changed the properties of both.

In the Sand and Water Center, Children

- ★ Learn about volume and measurement
- ★ Learn to make predictions and estimate
- ★ Explore force, cause and effect, and systems
- ★ Make comparisons
- ★ Discover properties of matter
- ★ Learn about gravity, stability, weight and balance
- ★ Know terms related to direction and location
- ★ Use vocabulary to designate quantities such as more than, less than, equal to, and as much as
- ★ Acquire fundamental movement skills
- ★ Develop perceptual awareness skills
- ★ Develop awareness of cycle, interaction of materials, and change
- ★ Observe relationships between materials

Getting Organized

It goes without saying that the Sand and Water area needs to be located near a water supply, either indoors or out of doors. Indoors, it should be in a waterprooled floor space rather than on carpet. Preferably, there should be space for both a water table and a sand table adequate for more than one child to work at a time, along with storage shelves and a place for a broom, dustpan and mop.

Basic Equipment

Different grades of sand
Sterilized potting soil, bird seed
Toy cars, trucks, highway signs, construction equipment
Toy people and animals
Buckets and shovels
Water and water table
Heavy-duty plastic tub
Liquid detergent for making bubbles
Large flat trays for soap solutions

Water

Funnels, sponges, corks and eyedroppers
Measuring cups, spoons and scoops
Boats, eggbeaters, bowls and straws
Tempera paint, food coloring
Coffee pot, squirt bottles
Objects that sink or float

Observations & Ideas

As the school year goes on, add or replace more basic materials in the Sand and Water area with others that require higher-order thinking. For example, items at the water table that earlier encouraged free exploration could be supplemented with fishing weights, corks, stones, string and tape. The children are now challenged to make floating things sink and sinking things float.

Mathematical concepts can be developed during sand play by providing children with measuring spoons and cups and containers in a variety of sizes and shapes. In observing children's sand play, use mathematical terms like more/less, many/few, empty/full and heavy/light. Then challenge children to count how many scoops it takes to fill a container.

What a child may do in this center

SCOS	Potential interactions
Science Goal 3 S.S. 2.01-2.04 Science 4.02	**Spills sand from sand table** • "What should you do now? How can you move the sand back to the table?"
ELA Goal 1 ELA 1.03, 5.01	**Draws or writes in wet sand** • "Tell me about what you have drawn /written." • "Can you make the letters in your name? What other things/words can you draw/write in the sand?"
Science 3.02 Sci. 3.01, 3.02 ELA 4.04	**Makes "sand food"** • "How would you describe the foods you have made?" • "What would happen if you ate the food you made?"
Sci. Goal 3, Math Goal 2 Math 1.08 Sci. 3.03	**Makes a "boat" using a variety of materials** • "What do you think would happen if you put bear counters on your boat?"
Sci. 3.03, 4.02 ELA 4.02	**Pours water into various containers (funnels, buckets, dishes, etc.)** • "What do you think would have happened if someone was holding the container?"
Math 2.01 Sci. 3.02, 3.03 Math 2.01, 3.01	**Blows bubbles through a variety of shaped wands** • "How would you describe what is happening?"

Making a Splash

As this teacher observes, Sand and Water activities naturally lend themselves to the learning of scientific concepts.

At the sand table, children are shaping mounds with depressions and covering them with small pieces of clear plastic. These they fill with water to make lakes so they can float the boats they've made at the carpentry center. At the water table, children are pouring water through sieves they've made by hammering holes in tin pie pans and plastic foam trays. Their voices are animated as they compare how the results are affected by the size and number of holes and discover that you can make a bigger splash by holding the sieve higher as water is poured through it.

It is the supreme art of the teacher to awaken joy in creative expression and knowledge.

Albert Einstein

Working with art materials benefits all aspects of children's development. As they draw, paint and make collages, they experiment with color, line, shape and size. By mixing color, they learn cause and effect. In making lines and shapes with markers and crayons, they develop the fine motor control needed for writing; in cutting paper and molding play dough, they refine their small muscle movements. For young children in art, the process of creating is what's important, not what they actually create. In a safe and comfortable environment, they build self-esteem and confidence while learning that each person has different ideas and ways of working.

Art

In the Art Center, Children

- ★ Discover color, shape, texture and size by seeing and feeling objects
- ★ Experiment informally with a variety of media
- ★ Look at and talk about artwork, including primary sources
- ★ Use the senses to gain information about the environment
- ★ Develop problem-solving skills
- ★ Develop independence
- ★ Develop organization skills
- ★ Experiment with art materials to understand properties and cause and effect
- ★ Develop manipulative skills
- ★ Develop eye-hand coordination
- ★ Respond to story-telling by drawing or painting
- ★ Make choices and decisions

Getting Organized

The Art center is preferably an uncarpeted area close to a sink for easy cleanup. A variety of tools and materials should be easily accessible to children who want to work by themselves. The area should also be large enough to accommodate special group activities that can be messy, such as papier-mâché projects, finger painting and easel painting. Also consider having a project drying and storage area.

Basic Equipment

Double-sided easels and worktables
Individual storage bins (such as baskets and shoeboxes)
Magazines, newspapers, catalogs and wallpaper books
Soft clay or play dough, with airtight bins for storage

Plastic knives, scissors and hole punches
Crayons, markers and chalk
Paints, pastels and brushes
Various kinds and grades of paper
Glue and tape
Collage materials (buttons, beans, feathers, fabric, greeting cards, yarn, glitter)
Sponges, pipe cleaners and modeling tools
Aprons and smocks

Observations & Ideas

Although praising children's artwork may always seem to be called for, the way in which an adult responds is the key to helping artistic development. Blanket comments like "Oh, that's pretty" or "I really like that" may in fact discourage a child who wasn't thinking about "pretty" or producing something "likable" but was trying to match up the edges of the pieces in a collage. Pay attention to what the child is actually doing and describe one thing you observe, such as "I see you used three red, patterned papers" or "I see that all the blue papers are different shapes."

The teacher can encourage exploration and problem solving through the strategic placement of materials. At the play dough table, providing a scale may lead a child to place a lump of dough in one pan and try to balance it by finding objects around the room to put in the other pan. A recipe book might encourage another child to make a play dough cake, using measuring spoons and cups to portion out imaginary ingredients.

Collect one drawing a week from each child and put them in individual folders, making sure to keep them in order of completion. At the end of the school year, put a cover on the collection to create a booklet. Parents will be able to see and enjoy their child's drawing progress.

What a child may do in this center

SCOS	Potential interactions
Science Goal 3	**Mixes or blends art media (e.g., yellow and blue)**
ELA 4.03,4.04, Math 3.01, Sci. 3.01, 3.02	• "What happened to the colors? What caused the colors to change?"
ELA 3.04, 4.01, 4.03-4.05	**Makes statements or asks questions before, during, after involvement in art activity**
ELA 3.01, 3.04, 4.03, 4.04	• "Would you like to tell me about your picture?"
Science 4.02, 4.04	• "What materials do you need to make your project?"
Science 4.02, 4.04	• "How are you going to use your materials?"
Math Goal 2	**Creates collage, using a variety of materials**
Science Goal 4	• Increase the variety of materials and tools for use.
ELA Goal 4	• Invite artists to share work and to work with other children.
ELA Goal 3	• Link prior experiences to artwork and encourage children to do so.
Math 2.01, 2.02	**Explores 2-D/3-D media (cardboard, clay, play dough, wood, plastic foam, etc.) while creating**
Math 2.01, 2.02, 2.04, 2.05, 3.01, 3.02	• Invite visitors (craft persons, visual artists) to demonstrate 3-D work.
ELA 4.01, Science Goal 4	• "Describe how you made your structure stand."
Science Goal 3	• "Why did you select those materials to make your structure?"

High Praise

This teacher earns high marks for understanding that art capabilities can grow richly when children's efforts are noticed and treasured.

In school at the end of the class, if I were to let the kids walk out with their drawings and say nothing, they would get the idea that what they did was of no particular interest. Instead, I say, "I've got to have this. Leave your drawing with me. I need to look at it." Sometimes I'll say to a child, "I want to make a copy of this for myself before I give it back to you."

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Play ... is a way of learning by trial and error to cope with the actual world.

Lawrence Frank

Imitating what happens in the world around them is the central focus of how children play. When they dress up and play with household items, they practice the understanding and mastering of adult roles. In playing out situations in their real lives or in pretend lives, they learn how to express themselves and think abstractly, an important precursor to reading. Dramatic play gives them opportunities to learn new words, both spoken and written, and becomes the basis for discussions that add to comprehension. In all pretend activities, children can incorporate early experimentation with writing – using their own invented spelling to create grocery lists, letters to friends and stories.

Dramatic Play

In the Dramatic Play Center, Children

- ★ Expand their vocabulary in a variety of situations
- ★ Match objects in one-to-one correspondence
- ★ Identify basic economic concepts
- ★ Experience consequences of actions in social relationships
- ★ Practice self-help skills
- ★ Develop concepts of family by practicing roles and sequences in basic family routines
- ★ Learn to work cooperatively and to observe rules
- ★ Engage in creative dramatic activities
- ★ Discover cause and effect, interaction of materials, and change
- ★ Learn to sort and classify objects
- ★ Participate in leader/follower roles
- ★ Make choices and decisions

Getting Organized

The Dramatic Play area needs sufficient equipment and material to stimulate role-playing, self-expression and initiative. It should be a clearly defined area that provides a sense of separation from the other activity centers. Shelves or cupboards can provide low walls that give the children some privacy but still allow the teacher to monitor activities.

Basic Equipment

Stove, sink or refrigerator and kitchen supplies
Theme props (hospital, restaurant, space lab, museum, grocery store, office)
Dolls and hand puppets (multicultural)
Table and chairs

Telephones
Cash register
Full-length mirror
Play food
Dress-up clothes
Toy iron and ironing board
Print materials (maps, phone books, coupons)
Writing materials
Steering wheel
Keys
Flowers and plants to arrange
Doctor and nurse kits

Observations & Ideas

Children are fascinated by what people do for a living. The Dramatic Play area can be transformed into a post office, fire station, beauty parlor or grocery store through a variety of prop boxes. A hospital prop box could be filled with bandages, stethoscopes, black bags, pill bottles and hot water bottles. Prompt the creation of a shoe store by collecting a box containing an assortment of shoes, shoeboxes, and shoeshine kits with clear polish and rags.

Don't be afraid of child-directed activities. Young children learning social skills need to learn to negotiate, compromise, persuade and cooperate. When allowed to play, they will do all of these things with one another. Rather than stepping in to referee each conflict, teachers should observe and be ready to help children work out problems through discussion when necessary. This will allow children to practice those skills.

What a child may do in this center

SCOS	Potential interactions
ELA Goal 1, 3, 4	**Makes marks on paper (e.g., a list, message, note)**
ELA 1.04, 3.01, 3.02, 3.04, 4.02, 4.04	• "Would you like to read what you wrote to me?" Teacher may model writing.
S.S. Goal 1	**Dresses in role-playing clothes (police officer, letter carrier, family member, etc.)**
	• Provide props and materials.
Math 1.01, 1.04, 1.09	• "How many firefighters would you need to put out the fire?"
S.S. 6.03, 6.05	• "Tell me about your job."
S.S. 6.03, 6.05	• "How do you know where to deliver the mail?"
ELA 2.03, 3.01, 3.02, 3.03	**Practices life skills (ironing, sweeping, putting away groceries, etc.)**
ELA 4.01, 4.02	• "Why did you put the fruit in the refrigerator?"
ELA 4.01, 4.04, 4.05	• "What will you eat now and what will you save for later?"
ELA 4.01, 4.04, 4.05	• "How/where did you get the groceries?"
Math Goal 1, 3	**Collects and manipulates objects (e.g., pretends to wash dishes, deliver mail, prepare for a picnic)**
Math 1.01, 1.03, 1.07, 1.08, 3.01	• "What else do you need to set the table?"
Math 1.01, 1.03, 1.07, 1.08, 3.01	• "Why did you use___ (spoons, plates, etc.)?"

Lesson Learned

As this classroom vignette illustrates, it's a wise teacher who knows when to observe learning from the sideline.

Several children are working together to build a boat from large blocks. Two boys use empty paint cans and large brushes from the Dramatic Play center to paint the vessel, taping "Wet Paint" signs all over the deck when they're done. Two other children make signs that say "Our Big Boat" (though these might look like mere scribbles to someone else). Since they will be sailing across the ocean, the children bring maps from the Reading area and pile up toy food. Their ensuing voyage is quite an adventure – pirates' treasure, sharks. There is much talk and laughter, give and take, and fierce enthusiasm. I would no more interrupt them for a "lesson" than try to stop the ocean tide!

The art of teaching is the art of assisting discovery.

Mark Van Doren

Doing things well with their hands is important for many things children will learn in school. They need to be able to hold pencils and crayons correctly so they can learn to write and do mathematics. Play that involves the use of hands, muscles and eyes helps children develop coordination and problem-solving skills. Puzzles and pegboards give practice coordinating hand-eye movements. Simple number games aid the learning of concepts and functions of numbers. In particular, children this age need a lot of practice in digital dexterity – opening and closing items and using things without dropping, breaking or spilling them. If they can't use their hands well, they will be afraid to try new things, and trying new things is an important way that children learn.

Manipula

In the Manipulatives Center, Children

- ★ Use vocabulary to define quantities and relationships and make comparisons
- ★ Demonstrate concepts of part and whole
- ★ Form groups by sorting and matching
- ★ Develop perceptual awareness skills
- ★ Practice counting
- ★ Experience basic addition/subtraction concepts
- ★ Discover similarities and differences
- ★ Learn the letters of the alphabet and distinguish between upper and lower case letters
- ★ Repeat simple patterns using objects
- ★ Make predictions and explain why
- ★ Discover color, shape, line and texture
- ★ Explore money and units of time

Getting Organized

For children to use puzzles and other small-scale manipulative materials, there needs to be a defined area for their use away from foot traffic. There should be small tables, benches and an open space with a floor mat where individuals or small groups can play games. Many varied and interesting materials can be assembled for use in this area – anything that invites children to construct, fit things together or develop patterns. Shelving put at the child's level will keep the area from becoming messy.

Basic Equipment

Puzzles of varying difficulty and puzzle rack
Matching games
Lacing board
Table blocks
Tinker toys
Beads and string with bead patterns
Button, zip and snap boards

tives

Counting objects
Sorting boards and games
Parquet blocks with patterns
Pegs with boards and patterns
Building sets
Playing cards
Dominoes

Observations & Ideas

Stirring, pouring, opening boxes and closing jars are safe things that children can do to help them practice using their hands and fingers.

Pieces of games and puzzles can be placed in zippered bags or plastic tubs with lids. The plastic bags can be hung from a string with clothespins. Virtually everything should be labeled. Label the backs of puzzle pieces so that lost pieces can be easily returned to the right bag. Label the storage crate or shelf with a list of materials that can be found there.

Questions to facilitate the exploration of the concept of area with manipulatives could include: "How many pennies/hands/buttons do you think it will take to cover the circle? How could you check?"

Questions and Answers

Too often, well-meaning adults interfere with children's learning by trying to shape the play or by asking a string of questions that serve to discourage thinking. (What shape did you use? Which of these things is your favorite?) A more appropriate way to guide learning is to join in the play and engage children in meaningful conversation. Asking questions that arise naturally from what they are doing will encourage vocabulary and the use of more sophisticated sentences as well as strengthen the ability to reason.

What a child may do in this center

SCOS	Potential interactions
Math 2.02	**Connects legos, unifix cubes, snap blocks, etc.**
Math 3.03, 3.04	• Make a simple pattern as a prompt. • "Can you make/construct a pattern of your own?"
Math 1.03	**Counts objects/materials**
Math 1.05, 1.07, 1.08, 1.11	• Put out numeral cards, paper and pencils to stimulate exploration. • "Can you give your friend the same number/more/less than you have?"
Math 1.03	**Matches objects**
Math 3.02	• "Tell me about what you are doing."
Math Goal 3, Science Goal 1	**Sorts objects (bears, buttons, beads, marbles, seashells, leaves, animals, etc.)**
Math Goal 3	• Introduce graduated, colored counting bears to children.
Math 3.02	• "All the big, red bears need to go to school. Can you sort/separate them from the whole group?"
Math 3.02	• Ask what rules they use for sorting and suggest other possibilities.
Math Goal 2	**Puts puzzles together and/or takes them apart**
Math 2.02	• "What shape/piece do you need next?"

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A good teacher explains ... a superior teacher demonstrates ... a great teacher inspires.

Unknown

The process of science is learning to question, wonder and systematically find out. Science activities encourage children to ask questions, look for answers and become aware of what is happening in the environment. With simple observations and experiments, they learn to gather data and make conclusions as they develop their visual and tactile senses. Science centers should offer opportunities for children to participate individually or in small groups.

Science and Discovery

In the Science and Discovery Center, Children

- ★ Classify materials and make predictions
- ★ Measure by weight and distance
- ★ Develop motor skills by using hand magnifiers and balances
- ★ Count and expand vocabulary
- ★ Learn to use the senses (sight, hearing, touch, smell, taste) to gain information
- ★ Compare similarities and differences among objects
- ★ Observe color, texture, size and shape of objects
- ★ Learn about change and cause and effect
- ★ Develop curiosity about the natural world
- ★ Observe relationships between objects
- ★ Investigate forces such as gravity and magnetism
- ★ Match, sort, classify and group objects

Getting Organized

A well-equipped Science and Discovery center should contain materials that require looking, probing, touching and all types of sensory exploration. Try to include a hand lens, plastic knives, microscope, science books and posters. If it's feasible, use both indoor and outdoor settings for scientific observations and explorations.

Basic Equipment

Weighing devices and small items to be weighed (shells, bottle tops, rocks, rice, buttons)
Real and play clocks
Large wooden beads
Markers and pencils, glue, scissors
Paper to record observations

Collections of natural objects
Insects and small animals from the everyday world
Microscope and magnifying glasses
Small mirrors and flashlights
Magnets and magnetic materials
Pulleys and simple machines
Plants, seeds and gardening tools
Thermometer, weatherboard
Science-related books and toys

Observations & Ideas

An explorations area, including a table to display various collections (stones, leaves, fossils and shells, for example) demonstrates to children that their personal interests are important to others. Caring for pets and plants, if possible in the context of the classroom or outdoor area, offer new experiences to think about and new things to try, as well as the opportunity to develop respect for the environment and a sense of responsibility.

When exploring the concept of capacity with pourable substances, questions that could guide observations and experimentation include: "How can you tell which container holds more water? Less water? The same amount?"

Mirror, Mirror

Teaching fairly complex concepts to young children doesn't require textbooks or lectures, as this teacher's experience shows.

Early in the school year I give mirrors to the children so they can explore the light that shines in our classroom window. They enthusiastically manipulate their mirrors, experimenting and discussing their captured sunlight, sharing and copying each other's discoveries. They build their science vocabulary by talking about the path of light. They are delighted to use terms like "reflection," "projection" and "screen" as I paraphrase their statements and model the new words for them. Soon the language of light is part of their everyday talk.

What a child may do in this center

SCOS	Potential interactions
Math Goal 3	**Sorts leaves that class has collected**
Math 3.01, 3.02	• "How did you decide where to put your leaves? What was your rule for sorting?" (e.g., child responds, "these are crunchy, these are soft.")
Math 1.09, Science 1.01	• "Can you guess/estimate how many crunchy leaves you have?"
Math 1.09, Science 1.01	• "Are there more soft leaves or crunchy leaves?"
Math 4.01	• "Let's make a graph of what you have discovered."
Math 3.02	• "Are there any other ways to group your leaves?"
Science 3.03	**Manipulates magnets**
ELA 4.01, 4.02	• "Can you describe what is happening?"
Science Goal 3	**Touches/feels different textures using shells**
Math 3.02	• "How can you sort or group your shells?"
Math 1.07, 1.08	• "Can you put the shells into groups that are equal in number?"
Math 1.03	• "Count the shells in each group."
ELA 2.02, 3.01	• "Can you find and identify your shells in this book about shells?"
Math 3.04	**Makes a repeating pattern using different types of seeds**
ELA 4.01, 4.03, 4.04	• "Describe your pattern to me."
Math 1.09	• "Which seeds do you have more of?"
Math 1.03	• "How can we find out?"
Science 4.03	**Places objects on balance scale, manipulates scale**
Math 2.05	• "Show me what happens when you put more/less on one side of the scale."
ELA 4.02, 4.03	• "Describe what is happening. Why is this happening?"

Books and Reading

Education is nothing more, nor less, than learning to think!

Peter Facione

When children are read to regularly and encouraged to look through books on their own, to listen to stories on tapes and to make up their own stories, they develop the motivation and skills to read and write by themselves. They make the connection that words and ideas can be written down and that marks on paper stand for the words we use and the sounds we make. They begin to use language-prediction skills and gain the confidence to ask questions and express themselves.

In the Books and Reading Center, Children

- Learn that printed words have meaning
- Develop left-to-right directionality
- Interpret what is read or heard
- Learn about ideas, people and places
- Develop verbal and listening skills
- Learn to retell a familiar story
- Recognize and compare familiar and unfamiliar sounds
- Learn to use a variety of words to express feelings and ideas
- Identify authors and illustrators as being the creators of stories
- Learn to distinguish between real and make-believe
- Follow simple story lines in stories read aloud
- Recognize that everyone has experiences to write about

Getting Organized

Set up a comfortable, quiet area where you can read to the children and where the children can spend individual time with favorite books. Carpet, cushions, a couch, chair, rocking chairs and pillows make a welcoming environment.

Basic Equipment

Wide variety of books and books-on-tape, refreshed regularly
Display unit for books
Tape or CD player

Paper, pencils, crayons, felt pens, colored pencils
Non-book items such as menus, recipes, boxes, labels, calendars, catalogs and telephone books that can be shared with other activity centers
Flannel boards, flannel board stories, puppets

Observations & Ideas

Rotate books frequently and be sure to have on hand extra copies of very popular books.

Display books so that children can see the covers and titles. Label all storage areas clearly and teach children to recognize the labels.

Learning opportunities during storytelling include asking thought-provoking questions such as "Why did that happen?" and "What do you think will happen next?"

Teachers need to educate parents about the power of fun. Help them to understand that the playful, creative child who comes to love learning is more likely to achieve and succeed than the anxious, pressured five-year-old who knows that "grades are everything."

What a child may do in this center

SCOS	Potential interactions
ELA 1.01, 2.02	**Chooses and looks at books independently**
ELA 2.04, 2.05	• Teacher and child discuss illustration on the cover of a book.
ELA 1.04, 2.05	• "What do you think is going to happen in the story? Let's read together to find out."
ELA 1.01	**Runs finger over text left to right, top to bottom while pretending to read**
ELA 1.01, 1.02	• "Point to each word as we read together."
ELA 2.01, 4.01- 4.04	• After reading, ask the child to retell the story.
ELA 1.01	**Points out print in the environment.**
ELA 1.03	• "Can you use this pointer to 'read' the room?"
ELA 2.02, 4.01, 4.02, 4.03, 4.04, Math 1.03, 2.06	**Uses a flannel board to retell *The Very Hungry Caterpillar***
ELA 3.01, 4.04	• "Have you ever felt like the caterpillar after eating too much? What did you do to make yourself feel better?"
Science 1.02, 1.04 ELA 3.01, 4.04	• "How did the caterpillar grow and change in the story? How do you grow and change?"

Planting Ideas

This teacher's technique for teaching reading is built on an understanding that young children vary widely in their levels of development.

It is helpful for those who have had more experience to share their thinking with others. I might ask, "How did you know the animal in the story was a cow?" A pre-reader might respond that there is a cow in the picture. An emergent reader might notice that the word started with a "c." A child at the fluent stage would recognize "c-o-w" as the word cow. These discussions plant ideas for students to help them move on to the next reading stage. Also, hearing language helps children develop the phonemic awareness that is crucial to beginning reading. Songs and rhyming games ("I'm thinking of a word that rhymes with cat. It's something you wear on your head.") can fill other transitions.

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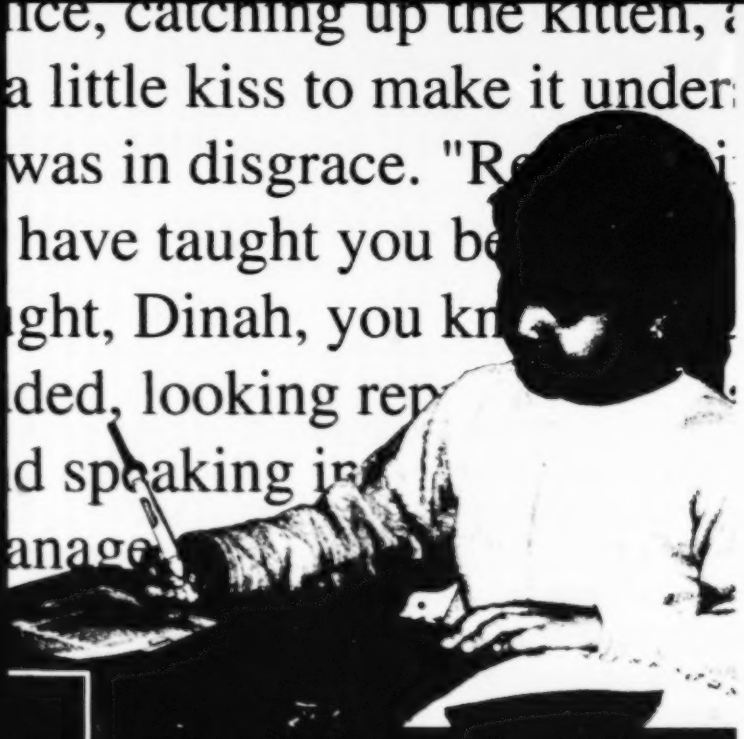

Teachers should guide without dictating, and participate without dominating.

C.B. Neblette

Writing, like speech, is a developmental process. It begins with scribbles and proceeds to lines and circles, to random strings of letters, words and spaces and eventually to sentences. Writing can be made a natural part of every activity center in some way, but here, especially, children are encouraged to connect reading to writing. When they see writing as a necessary, purposeful and enjoyable activity, they pursue it eagerly. Given opportunities and materials, they can produce labels, lists, cards, letters, stories and books, learning the many forms of the written language and the mechanics of communication. In manipulating crayons, pencils and chalk, they develop eye-hand coordination and small-muscle control.

Writing and Printing

In the Writing and Printing Center, Children

- ★ Learn they can communicate with squiggles and written words
- ★ Strengthen and develop small muscles
- ★ Use a variety of writing tools to convey thoughts and feelings
- ★ Recognize that writing can entertain and inform
- ★ Create stories using invented spelling
- ★ Learn to respond to simple directions, commands and questions
- ★ Use oral language in a variety of situations

Getting Organized

The Writing and Printing center should be located in a quiet area with an ample work surface, shelving for supplies, enough chairs for several children to work at once and a range of materials and tools.

Basic equipment

Table and shelves
Variety of papers, cards, envelopes, forms
Pencils, crayons, pens, chalk
Scissors, hole punch
Yarn, ribbon, string
Alphabet books
Dictionaries
Tape, glue, art gum
Small chalkboard
Typewriter, computer, printer

What a child may do in this center

SCOS	Potential interactions
ELA 1.03	**Uses alphabet stamps and names some of the letters**
ELA 5.02	• "Can you find the letters to spell your first name?"
ELA 1.02	**Asks teacher to make a "Do Not Disturb" sign for his/her block construction**
ELA 5.01	• Teacher writes the words for the sign, emphasizing letter sounds, and asks the child to create the final product.
ELA 1.03, 5.01	**Copies friends' names from the cubbies**
ELA 1.01, 1.03, 5.01	• "Can you use this clipboard and paper to write other words you know from around the room?"
ELA Goal 4	**Draws a picture to represent an idea or thought**
ELA 4.01, 4.02, 4.03	• "Can you describe or tell us what the picture is about?" • Teacher records and repeats words dictated by child, emphasizing the sounds linked with various letters.
ELA 1.02, 4.01,4.02, 4.03, 5.01	• "Can you write a sentence describing the picture and what it represents?"
ELA Goal 1	**Experiments with different writing tools**
ELA 1.02, 5.01, 5.02	• Teacher asks child to write all the letters, words and names that he/she knows.

Observations & Ideas

Fold a large piece of construction paper in half and put blank pages in the middle to form a journal for each child to write and draw whenever he or she wishes. Staple the book across the top and glue a picture of the child on the front for easy identification. When one journal is filled, start a new one, but keep the completed ones to share during circle time. It's a great way to track their progress in book form.

One of the oldest methods of teaching spelling is having students write a word fifteen or more times. Research clearly demonstrates that this method has never worked and probably never will work. Yet it seems so logical that it's almost impossible to fight it. And why doesn't it work? It seems that spelling occurs as a natural progression of learning, not through unconscious, unthinking repetition.

Making the Tranzishun*

Der Parints,

Az ur child brings home riting for the ferst tim, do not be serprized at the speling. The Inglsh langwij is confuzing for students. Prematur insistints that students uz standurd, or "correct" speling inhibits thair dezir and ability to rit. We wil uz "invntd speling" in r wrk. Az parints, u can hlp ur child by prazing awl thair riting. Let ur child red thair riting to u. Displa thair riting around ur hom. No that as ur child becomz familyer with riting, he or she wil mak the tranzishun to standard speling.

Thank u,

Techer

* This note was sent to parents of children attending kindergarten at a school in Wisconsin.

Carpentry

I know of nothing more inspiring than that of making discoveries for one's self.

George Washington Carver

When children use tools, their hands and eyes work together, they use muscles, they observe, and they solve problems. They begin developing and practicing skills they can use later in life. Carpentry extends mathematical concepts and observation skills and encourages flexible, fluent and unique thinking. Through collaboration and discussion, carpentry activities shared by peers promote the development of oral language. Because every child feels good about being allowed to do a "grownup" activity, the challenge of working with tools helps build a healthy self-concept and sense of pride.

In the Carpentry Center, Children

- ★ Develop fine motor skills and coordination
- ★ Learn to work with measurement tools
- ★ Explore relationships and interaction of materials
- ★ Learn to work independently
- ★ Develop a willingness to try new things and to try again
- ★ Understand stability and balance
- ★ Develop safety awareness
- ★ Explore force, cause and effect, and properties of materials
- ★ Know and observe rules
- ★ Develop safety awareness
- ★ Use the senses to gain information about the environment
- ★ Make choices and decisions

Getting Organized

The Carpentry center is intended to provide a safe place for children to engage in the simple, satisfying activities of hammering, sawing, gluing and clamping. The area for this activity should be well defined and contained, with space for two or three children to work. Locate it out of the line of traffic and use carpet to minimize noise. The area needs to be visible from all parts of the room so the teacher can easily observe and supervise.

Basic equipment

Workbench or low, fairly heavy table

Sturdy tool rack, mobile if possible

Vise, wrench, pliers, saws, hammers, hand drills, screwdrivers

Sandpaper

Woods

Nails, nuts, bolts

Paints and brushes

Safety goggles and hard hats

Paper and pencils to draw plans

Tape measures and rulers

Foam pieces, golf tees and wooden mallets for beginners

Observations & Ideas

Store and label each tool's space on a tool rack or pegboard to show that organization is important. It's also a good idea to trace the shapes of the tools onto the pegboard with a permanent marker so children know where to store them. Shelves are needed for labeled containers of nails and screws.

Care should be taken to select appropriate wood pieces. They should be sanded thoroughly in order to be splinter-free. Treated wood, which contains chemicals, should not be used.

Students' sense of time can be developed by emphasizing tasks and completion of activities: "Tell me about your picture (construction, experiment, etc.). Where did you get your ideas? If you were to change anything, what would it be? How will you know when your project is finished?"

The Right Tool

Continually refreshing the props in activity centers is a sure way to keep children's learning level high, as this teacher's experience indicates.

After a few weeks of hammering golf tees into thick chunks of packing foam, I remove the hammers and golf tees from the Carpentry center and introduce screwdrivers and screws. The children and I talk and decide which screwdriver – regular or Phillips head – matches which screw. It is so important for the children to understand and use the right tool for the right job. Mashed-up foam can get messy, but it's worth the mess.

What a child may do in this center

SCOS	Potential interactions
Science Goal 4	**Participates in supervised exploration of tools**
ELA 4.02	• Observe children's knowledge of tools and their use.
S.S. 2.01-2.04 Sci. 4.02	• Use observations to plan instruction on proper use of the center.
ELA 4.01, Math Goal 2	**Expresses desire to engage in project making**
ELA 4.01	• "Tell me what you would like to make."
Math 2.03, 2.04, 2.05	• "What will you need in order to achieve your plan?"
Math 2.01, 2.02	• "What shapes/pieces do you need?"
Science 4.02	• "What tools will you use?"
ELA 3.01	• "Draw your plan on a piece of paper."
Science Goal 4	**Chooses appropriate tools and materials (nails, screwdrivers, pieces of wood, etc.)**
ELA 4.01 Math 1.06	• "How did you use the ___? What did you use first?"
ELA 4.04	• "What could you have used instead of the ___?"
Math 2.04	**Engages in conversation using positional/ directional words**
Math 2.04	• "Does this part go on the top/bottom of your ___?"
Math 2.04	• "Where do you want this piece to go?"
Science Goal 3	**Tests motion/ability of project**
Science Goal 3	• "You've made a boat/car. What would you like to do with it now?"
Science Goal 3	• "How can we find out if the boat/car will float/go far?"

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The object of education is to prepare the young to educate themselves throughout their lives.

Robert Maynard Hutchins

Outdoor play gives young children a safe environment to let off excess energy and polish newly acquired motor skills such as jumping, throwing and catching. As they twist, bend, swing and balance, children also are developing their imagination and learning important language, problem-solving and social interaction skills. In addition, group activities promote teamwork and a sense of commitment to a group.

Outdoor Activities

In the Outdoor Activities Center, Children

- ★ Explore ideas and concepts in nature
- ★ Develop an appreciation for the environment
- ★ Learn and practice new skills
- ★ Make scientific observations
- ★ Gain self-confidence
- ★ Increase physical fitness
- ★ Practice taking informed risks
- ★ Solve problems
- ★ Learn to take turns
- ★ Increase communication skills
- ★ Act out home and community experiences
- ★ Explore nature

Getting Organized

A well-designed outdoor learning environment stimulates the imagination of children and allows them to test their abilities as well as enjoy the benefits of fresh air and vigorous physical exercise. A variety of equipment suitable for many children to use at once is preferable to one large all-purpose structure that limits participation. Establish sand, water and mud play stands. Bring prop boxes from the classroom to further encourage imaginative play. The outdoors should provide for a range of observation and exploration opportunities – the weather, the sky, the seasons, plant and animal life. The play area can be planned as an extension of the classroom. Weather permitting, art, music and dance, storytelling, dramatic play, carpentry and caring for classroom pets all can take place outdoors.

Basic Equipment

Climbing structures with lots of moving parts (swings, ropes, bars, ladders, hanging rings and enclosures)

Binoculars or telescope

Suspension bridges
Ramp and tunnels
Short sliding bars
Slides
Stairways, stepladders
Sand, water, pebbles and garden dirt
Tubs, buckets, cups, scoops, small shovels, etc.
Movable objects such as tires, hollow blocks, planks and crates
Vinyl-covered picnic table or other table
Garden box or plot, child-size gardening tools
Equipment for hauling, building and riding
Balls of varying types and sizes, hula hoops, jump rope, etc.

Observations & Ideas

Many science activities can and should take place outdoors. Keep plastic bags and other containers readily available for the many treasures children find outdoors. Take prop boxes outside for additional play experiences. An old tree stump could be used for hammering nails; a hula-hoop can be hung from a tree branch for children to throw beanbags or balls through.

Set up a semi-permanent "gas station" on the playground. Attach an old garden hose to a post for use as a gas hose and use other hoses for air and water. Label them. Place a "tool box" near the gas station with toy tools.

Exercising the Imagination

This playground experience provides more than fresh air and exercise, as the teacher encourages the children to stretch all of their senses.

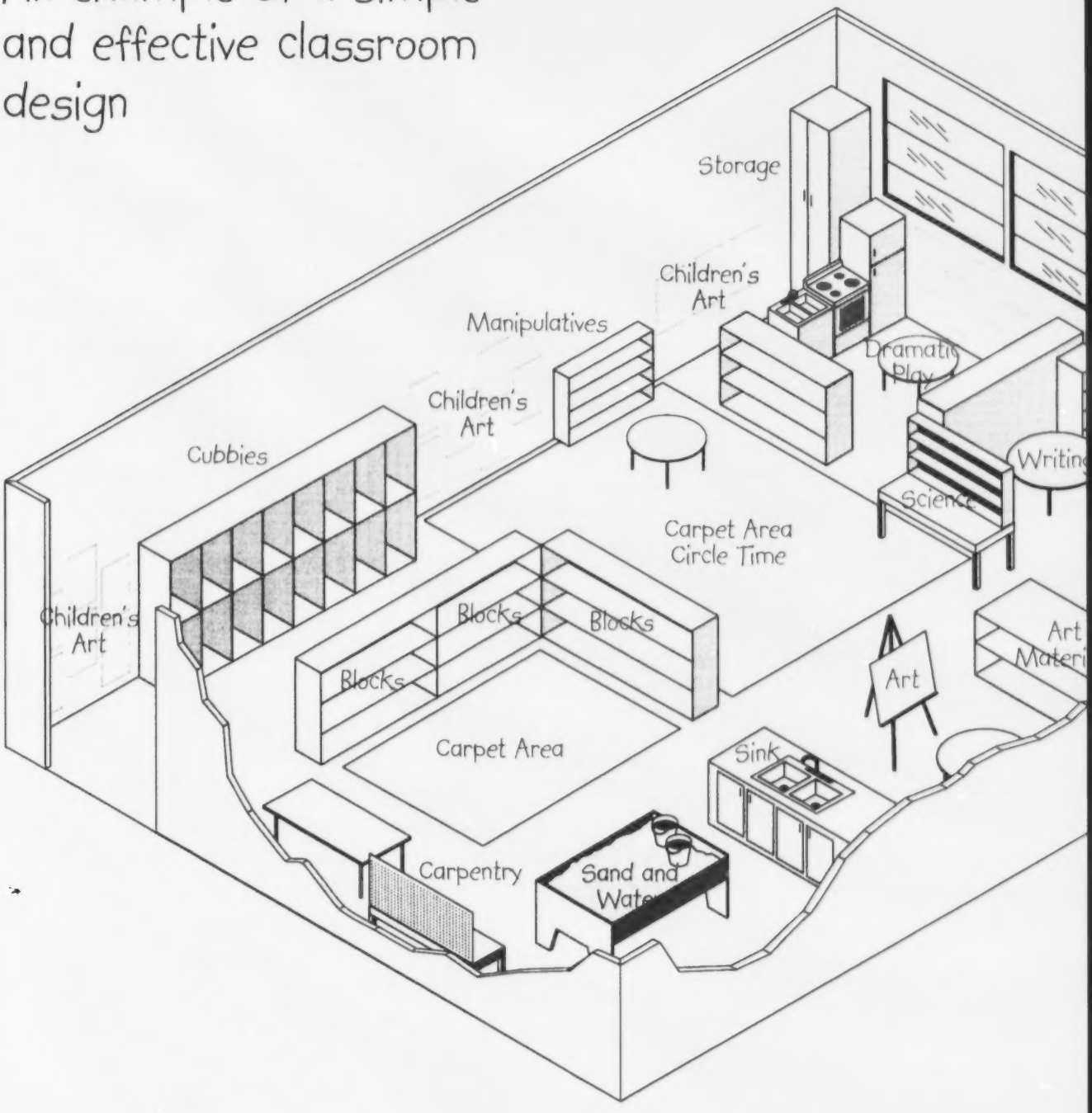
Everyone, stretch! Take a deep breath. Shake your legs, one at a time. Now we are ready! The teacher says, "Follow me! I wonder what we'll see on our walk?" We walk briskly around the playground to loosen up our muscles. We pretend to approach a thick jungle. It is too thick to walk through. We need to crawl! There's a large lake in the distance. We run to it, jump in, and pretend to swim. Next we arrive at a mountain to climb. Climb a climbing structure on the playground or slide down a slide. See an unexpected bear. Run! Find a hiding place. Send someone out to see if the bear has gone away. The walk in the grass is almost over. Walk slowly. Look around. Lie on the grass. What do you see? What do you hear? What a wonderful walk!

What a child may do in this center

SCOS	Potential interactions
S.S. 2.01, 2.03	**Takes his/her turn moving across a swinging bridge**
ELA 2.03-2.05, 2.07	• Introduce and read *Three Billy Goats Gruff* to the children.
ELA 2.01, 2.02, 4.01, 4.02, 4.03	• Act as narrator as children dramatize/recreate the story using the swinging bridge as a prop.
S.S. 2.01, 2.03, 7.02	**Rides tricycle on hardtop**
Math 2.04	• Use traffic cones to establish tricycle path/course.
S.S. 2.01, 2.03	• Place traffic signs at strategic spots to establish traffic patterns and encourage following of traffic rules (stop, slow, etc.).
Sci. 1.03, 3.03	**Observes birds at bird feeder**
Science 1.02, ELA 4.03	• "Tell me/describe what you see."
Science 1.04	• "What do birds need to live and grow? Is that different from what you need? What are the things you need to live and grow?"
Science 1.02, 3.03	• "How are the birds you see like you? How are they different?"
Science 2.03	**Observes and comments on signs of spring (blooming flowers, new leaves on trees, green grass)**
Math 4.01, Sci. 2.03, ELA 4.01, 4.04, 4.06	• Provide a shared writing experience to record observations.
S.S. 2.01, 2.02, 5.02, Sci. 1.01, 4.01, 4.02, Math 2.04, 3.03, ELA 4.03	• Plan, plant and care for an outdoor garden.

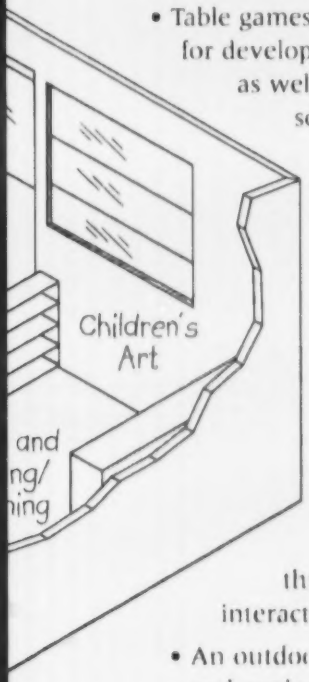
Children welcome here:

An example of a simple and effective classroom design



Learning centers provide a variety of exploration.

- A block corner for building
- A science area for observing and investigating
- A dramatic play space for role-playing
- An art area for trying out a variety of materials
- A comfortable, quiet place with good books for browsing and reading
- A writing area with paper, pencils, crayons, markers and possibly a computer
- Table games and manipulative materials for developing eye-hand coordination as well as sharing, problem-solving and thinking skills
- A large open space for group meetings, story time, music and movement
- Sand and water tables for beginning to explore basic mathematical and scientific concepts
- Multiple opportunities for social studies experiences through classroom interactions
- An outdoors area for exercise, sharing and exploration
- A carpentry space for exercising small muscles and developing eye-hand coordination



Organizing the Classroom

Spontaneous play in an activity-centered environment is characteristic of effective kindergarten programs. Learning center activities and experiences develop language skills and mathematics concepts as well as knowledge in other discipline areas. A well-organized classroom allows for successful learning activities and promotes appropriate social behavior. Some key considerations in planning the space:

- Make it usable for children. View each activity center from knee level.
- Keep quiet areas separate from active or noisy areas. Books should be distant from blocks, carpentry or dramatic play.
- Centers should address all developmental areas – cognitive, language, creative, self-help and social/emotional.
- Provide space where children can go to be alone but still remain in full view of the teacher.
- Define boundaries with furniture and floor coverings so children can tell where learning centers start and end.
- Avoid large open areas to reduce running and aimless wandering.
- For safety, separate the carpentry workbench from other activity areas and limit the number of children who can work there at once.
- Equip the learning centers with materials for everyone and include duplicates of favorite toys.
- Provide each child with a personal cubby to store belongings.

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North Carolina Standard Course of Study for Kindergarten

English Language Arts

Competency Goal 1:

The learner will develop and apply enabling strategies and skills to read and write.

1.01 Develop book and print awareness:

- identify the parts of books and function of each part.
- demonstrate an understanding of directionality and voice-print match by following print word for word when listening to familiar text read aloud.
- demonstrate an understanding of letters, words, and story.

1.02 Develop phonemic awareness and knowledge of alphabetic principle:

- demonstrate understanding that spoken language is a sequence of identifiable speech sounds.
- demonstrate understanding that the sequence of letters in the written word represents the sequence of sounds in the spoken word.
- demonstrate understanding of the sounds of letters and understanding that words begin and end alike (onsets and rimes).

1.03 Demonstrate decoding and word recognition strategies and skills:

- recognize and name upper and lower case letters of the alphabet.
- recognize some words by sight including a few common words, own name, and environmental print such as signs, labels, and trademarks.
- recognize most beginning consonant letter-sound associations in one-syllable words.

1.04 Read or begin to read:

- read or attempt to read own dictated story.
- attempt to read/reads simple patterned text, decodable text, and/or predictable texts using letter-sound knowledge and pictures to construct meaning.

1.05 Interact for at least 10 minutes daily with self-selected texts that are consistent with the student's independent reading level.

Competency Goal 2:

The learner will develop and apply strategies and skills to comprehend text that is read, heard, and viewed.

2.01 Demonstrate sense of story (e.g., beginning, middle, end, characters, details).

2.02 Demonstrate familiarity with a variety of types of books and selection (e.g., picture books, caption books, short informational texts, nursery rhymes, word plays/finger plays, puppet plays, reenactments of familiar stories).

2.03 Use preparation strategies to activate prior knowledge and experience before and during the reading of a text.

2.04 Formulate questions that a text might answer before beginning to read (e.g., what will happen in this story, who might this be, where do you think this happens).

2.05 Predict possible events in texts before and during reading.

2.06 Understand and follow oral-graphic directions.

2.07 Demonstrate understanding of literary language; e.g., "once upon a time" and other vocabulary specific to a genre.

Competency Goal 3:

The learner will make connections through the use of oral language, written language, and media and technology.

3.01 Connect information and events in text to experience.

3.02 Discuss concepts and information in a text to clarify and extend knowledge.

3.03 Associate target words with prior knowledge and explore an author's choice of words.

3.04 Use speaking and listening skills and media to connect experiences and text:

- listening to and re-visiting stories.
- discussing, illustrating, and dramatizing stories.
- discovering relationships.

Competency Goal 4:

The learner will apply strategies and skills to create oral, written, and visual texts.

4.01 Use new vocabulary in own speech and writing.

4.02 Use words that name and words that tell action in a variety of simple texts.

4.03 Use words that describe color, size, and location in a variety of texts: e.g., oral retelling, written stories, lists, journal entries of personal experiences.

4.04 Maintain conversation and discussions:

- attending to oral presentations.
- taking turns expressing ideas and asking questions.

4.05 Use a variety of sentence patterns such as interrogative requests (Can you go with me?) and sentence fragments that convey emotion (Me, too!).

4.06 Write and/or participate in writing behaviors by using authors' models of language.

Competency Goal 5:

The learner will apply grammar and language conventions to communicate effectively.

5.01 Develop spelling strategies and skills by:

- representing spoken language with temporary and/or conventional spelling.
- writing most letters of the alphabet.
- analyzing sounds in a word and writing dominant consonant letters.

5.02 Use capital letters to write the word I and the first letter in own name.

Mathematics

Number Sense, Numeration, and Numerical Operations

Competency Goal 1:
The learner will recognize, model, and write numbers through 10.

1.01 Model numbers in a variety of ways.

1.02 Read, write and count using whole numbers; rote count forward to 30 or beyond and backward from 10.

1.03 Use 1-1 correspondence to identify how many (0 - 10).

1.04 Recognize numerals and match to sets 0 - 10.

1.05 Write numerals 0-9 in meaningful contexts.

1.06 Use ordinals first through fifth.

1.07 Create and identify sets with more, less, or equal members by matching.

1.08 Combine and remove objects from sets, describe results.

1.09 Estimate quantities less than 20.

1.10 Create and solve story problems within a group.

1.11 Share equally (divide) between two people; explain solution.

Spatial Sense, Measurement, and Geometry

Competency Goal 2:
The learner will explore concepts of geometry and non-standard measurement.

2.01 Recognize basic two-dimensional (plane) figures: circle, square, triangle, and rectangle. Describe their likenesses and differences and identify them in the environment.

2.02 Complete simple spatial visualization tasks and puzzles.

2.03 Compare and order objects using appropriate vocabulary.

2.04 Model and use directional and positional words.

2.05 Use non-standard measurement of length, weight, capacity, and time.

2.06 Name the days of the week.

Patterns, Relationships, and Functions

Competency Goal 3:
The learner will model simple patterns and sorting activities.

3.01 Describe likenesses and differences between and among objects.

3.02 Sort by a given attribute; sort by own rule and explain.

3.03 Identify, copy, continue, and describe patterns.

3.04 Create patterns with actions, words and objects.

Data, Probability, and Statistics

Competency Goal 4:
The learner will gather and organize data in a group setting.

4.01 Collect data to create concrete and pictorial graphs and describe the results as a group activity.

Science

Competency Goal 1:

The learner will build an understanding of similarities and differences in plants and animals.

1.01 Identify the similarities and differences in plants:

- Appearance.
- Growth.
- Change.
- Uses.

1.02 Identify the similarities and differences in animals:

- Appearance.
- Growth.
- Change.
- Purpose.

1.03 Observe the different ways animals move from place to place, and how plants move in different ways.

1.04 Observe the similarities of humans to other animals and their basic needs. Observe how humans grow and change.

Competency Goal 2:

The learner will build an understanding of weather concepts.

2.01 Observe daily weather changes throughout the year.

2.02 Identify types of precipitation, variations in wind, sky conditions and day and night changes.

2.03 Observe the seasonal and daily changes in weather: similarities and differences, temperature changes.

Competency Goal 3:

The learner will build an understanding of the properties/movement of common objects and organisms.

3.01 Describe objects in terms of the materials they are made of (clay, metal, cloth, paper, etc.), their physical properties (color, size, shape, weight, texture, flexibility), and how they are used.

3.02 Describe how objects look, feel, smell, taste, and sound using all the senses.

3.03 Describe motion when an object, a person, an animal, or anything goes from one place to another.

Competency Goal 4:

The learner will increase his/her understanding of how the world works by using tools.

4.01 Describe the functions of tools.

4.02 Determine the usefulness of tools to help people: scissors, pencils, crayons, paper clips, hammers, etc.

4.03 Apply nonstandard units of measure.

4.04 Conclude that tools extend human capabilities.

Social Studies

Competency Goal 1:

The learner will investigate how individuals, families, and groups are similar and different.

1.01 Describe how individuals are unique and valued.

1.02 Identify different groups to which individuals belong.

1.03 Examine diverse family structures around the world.

1.04 Recognize that families and groups have similarities and differences.

1.05 Compare and contrast customs of families in communities around the world.

Competency Goal 2:

The learner will identify and exhibit qualities of responsible citizenship in the classroom, school, and other social environments.

2.01 Exhibit citizenship traits such as integrity,

responsibility, and trustworthiness in the classroom, school, and other social environments.

2.02 Participate in democratic decision making.

2.03 Describe the importance of rules and laws.

2.04 Analyze classroom problems and suggest fair solutions.

Competency Goal 3: The learner will recognize and understand the concept of change in various settings.

3.01 Observe and describe how individuals and families grow and change.

3.02 Evaluate how the lives of individuals and families of the past are different from what they are today.

3.03 Observe and summarize changes within communities.

3.04 Recognize changes in the classroom and school environment.

Competency Goal 4: The learner will explain celebrated holidays and special days in communities.

4.01 Explore how families express their cultures through celebrations, rituals, and traditions.

4.02 Identify religious and secular symbols associated with famous people, holidays, and special days of diverse cultures.

4.03 State reasons for observing special, religious, and secular holidays of diverse cultures.

Competency Goal 5: The learner will express basic geographical concepts in real life situations.

5.01 Locate and describe familiar places in the home, school, and other environments.

5.02 Create and interpret simple maps, models, and drawings of the home, school, and other environments.

5.03 Describe the functions of places in the home, school, and other environments.

5.04 Recognize and explain seasonal changes of the environment.

5.05 Identify and state how natural and human resources are used within the community.

Competency Goal 6: The learner will apply basic economic concepts to home, school, and community.

6.01 Distinguish between wants and needs.

6.02 Examine the concept of scarcity and how it influences the economy.

6.03 Identify examples of how families and communities work together to meet their basic needs and wants.

6.04 Give examples of how money is used within the communities, such as spending and savings.

6.05 Explore goods and services provided in communities.

Competency Goal 7: The learner will recognize how technology is used at home, school, and the community.

7.01 Identify different types of media and forms of communication.

7.02 Explore modes of transportation at home and around the world.

7.03 Describe functions of computers and other electronic devices used in the home, school, and other environments.

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